Software Requirements Review (SRR) Checklist

Date(s) of Assessment: _____ Project: _____

Assessor(s): _____ Review Examined: _____

_____ _____

		Y , N, NA	F,O	Comments
REVIEW PREPARATION				
1	Have standards been identified to clearly define the review process?			
2	Were guidelines used to prepare for the review?			
3	Has the project submitted any request for deviations or waivers to the defined process?			
4	Have entrance and exit criteria been established for the review?			
5	Was an agenda prepared and distributed in advance of the review?			
6	Was the review package provided with ample time to review?			
7	Were the appropriate stakeholders in attendance?			
ADDITIONAL REQUIREMENTS for REVIEW PREPARATION				
8	Has the project highlighted and discussed with the review chairperson any significant areas that may require attention in planning of the review?			
9	Was the SRR scheduled approximately 2 months following the relevant spacecraft or instrument Project-level SRR?			
10	The following project documentation should be baselined or minimally signed by the appropriate branch/senior management representative:			
10a	SW Product Plan (i.e., SW Management Plan)			
10b	SW Test Plan			

Y=Yes, N=No, NA=Not Applicable, F=Finding, O=Observation

For more information, please visit the NASA GSFC Software Assurance Website, at http://sw-assurance.gsfc.nasa.gov.

Software Requirements Review (SRR) Checklist

		Y , N, NA	F,O	Comments
11	Does the SW Requirements Document show requirements completed to the subsystem level?			
12	Has the requirements flow been identified across and between subsystems?			
13	Have all system level requirements been identified?			
14	Are there any orphan requirements (if the answer is yes please explain if there is a plan for linking the requirements)?			
15	Is there evidence that at least one management-led walk-through of the SW Requirements Document has occurred and the recommendations from such have been incorporated?			
16	Are technical specialists who are key to knowing the full set of requirements on the SW available to support the SRR as scheduled (i.e., attend the review)?			
17	Were the following SRR materials distributed at least 3-7 days prior to the review?			
17a	SW Requirements Document(s) **(Required)**			
17b	SRR Presentation Package (**Required)**			
17c	Interface Requirements Documents (IRD's) (Optional)			
17d	Interface Control Documents (ICD's) (Optional)			
17e	SW Test Plan (Optional)			
18	Has a review panel consisting of the following members been selected?			
18a	Review Chairperson - a senior Systems Engineer not involved with the project (controls the review, collects the RFAs, maintains attendance list)			
18b	Spacecraft or Instrument Systems Engineer			
18c	One or more experienced flight software lead engineers not assigned to this project			

Y=Yes, N=No, NA=Not Applicable, F=Finding, O=Observation

		Y , N, NA	F,O	Comments
18d	Mission Director or Flight Operations Team Lead			
18e	An independent non-GSFC reviewer (e.g., someone from APL)			
19	Were the following project personnel invited?			
19a	SW On-orbit Sustaining Engineering Team representative			
19b	Flight Operations Team representatives			
19c	Project's Code 300 SQ representative			
19d	IV&V representative from the NASA IV&V Facility?			
SRR DRY RUNS				
20	Was a dry run scheduled at least 2 weeks prior to the actual SRR?			
21	Is there evidence that the following personnel participated in the dry run activities?			
21a	Members of the branch/senior management team			
21b	One senior member of the branch who is unfamiliar with the Project, but has extensive experience with the same Application (i.e., a spacecraft or an instrument)			
SRR OBJECTIVES				
22	Was the correctness and completeness of the requirements to be implemented confirmed?			
23	Were all functional and performance requirements available and identified?			
24	Was there an assessment of the requirements set for compatibility with the mission development schedule, funding, and other Project resources?			
25	Was the SRR scope defined clearly to avoid any confusion during the discussions?			
26	Did the SRR Project Overview provide the following:			
26a	Project Organization			
26b	SW Team organization			

Y=Yes, N=No, NA=Not Applicable, F=Finding, O=Observation

Software Requirements Review (SRR) Checklist

		Y , N, NA	F,O	Comments
26c	SW Team Process Documentation			
26d	SW Requirements Development Process			
26e	SW Requirements Control Approach			
26f	SW Schedule			
27	Were requirement drivers presented from several tangible mission perspectives – i.e., flight operations, the flight hardware environment, and the software interfaces environment?			
28	Was the following Mission Operations context addressed?			
28a	Science and Orbit drivers on the SW system			
28b	Special Mission Requirements			
28c	Command and Data Handling drivers			
29	Did the flight hardware context identify the flight hardware environment in which the software will operate?			
30	Did the software context clearly identify the relationship of the software system under review with other software elements?			
31	Were resource goals and preliminary sizing estimates in the context of available hardware allocations (i.e., memory types, buses, CPU, etc.) provided?			
32	Was the approach to be used to measure and track resource utilizations explained? (Note: this will depend upon performance requirements outlined in the requirements document)			
33	Did SW qualification requirements identify the test facilities and test activities required to qualify the SW for launch and operations?			
34	Were SW risks and the approach for mitigating each risk identified?			
35	Were SW issues and concerns reported and documented in the review package?			

Y=Yes, N=No, NA=Not Applicable, F=Finding, O=Observation

Software Requirements Review (SRR) Checklist

		Y , N, NA	F,O	Comments
DESIGN SUCCESS CRITERIA				
36	Were design changes since the System Concept Review (SCR) documented and rationale for compliance provided?			
37	Have all technology development related items continued on track and mitigation plans remained viable since the SCR?			
38	Do all block diagrams clearly define interfaces with external systems, interfaces between each independent system element (spacecraft, science instruments, launch vehicle, ground system, etc.), and interfaces within each independent element down to the subsystem level or below?			
REQUIREMENTS SUCCESS CRITERIA				
39	Were processes for the allocation and control of requirements documented and approved?			
40	Were the plans for design, production, and verification activities defined and documented?			
41	Were interface requirements with external systems defined?			
42	Were interface requirements between independent system elements defined?			
43	Were interface requirements between subsystems and components of each independent system element defined?			
44	Were functional requirements for subsystems and components of each independent system element defined so as to fully achieve system requirements? (Was traceability established?)			
45	Was the allocation of key resources (mass, power, etc.) to elements of flight subsystems traced and identified?			
46	Were mission operations, data acquisition, data processing, and data analysis requirements fully defined?			

Y=Yes, N=No, NA=Not Applicable, F=Finding, O=Observation

Software Requirements Review (SRR) Checklist

		Y , N, NA	F,O	Comments
47	Were software performance requirements defined?			
SRR FOLLOW-UP				
48	At the conclusion of the review is a technical understanding reached on the validity and degree of completeness of:			
48a	The System/subsystem specification?			
48b	The engineering design/cost of the system?			
49	Did all designated parties concur in the acceptability of the SRR?			
50	Are there any risks, issues, or request for actions (RFAs) that require follow-up?			
51	Is there a process in place for reviewing and tracking the closure of risks, issues, or RFAs?			
52	Have all artifacts been placed under formal configuration control (e.g., review packages)?			
REFERENCE ITEMS/DOCUMENTS				
Code 582 FSW SRR Standard, Version 1.0-02/24/04				
Handbook of Software Quality Assurance 3rd Edition, G. Gordon Schulmeyer and James I. McManus and JPL's Software Reviews Handbook.				
BK PRELIMINARY DRAFT SCR GUIDELINES (03/0304), GSFC System Management Office, DESIGN REVIEW GUIDELINES – System Requirements Review				
GPR 7120.5A Systems Engineering 01/10/05				
ISD Checklist, 580-GK-005-01, PAL# 2.2.3.2				

Y=Yes, N=No, NA=Not Applicable, F=Finding, O=Observation

Software Requirements Review (SRR) Checklist

Date(s) of Assessment: _____ Project: _____

Assessor(s): _____ Review Examined: _____

_____ _____

COMMENTS PAGE _____ of _____

#	Comments from assessment

Y=Yes, N=No, NA=Not Applicable, F=Finding, O=Observation

For more information, please visit the NASA GSFC Software Assurance Website, at http://sw-assurance.gsfc.nasa.gov.